

## Young Striped Bass

Jim Orsi, DFG

Young striped bass abundance is indexed twice in the first year of life, by the summer tow-net survey and the fall midwater trawl survey. The midsummer tow-net survey index, determined since 1959, is an estimate of abundance when the mean fork length reaches 38mm. No indices are available for 1966 (no boat was available), 1983 (bias in sampling due to high outflow), and 1995 (prolonged recruitment resulted in the average fish length not reaching 38 mm during the index period). Although no 38-mm index for 1995 was obtained, low indices for the five individual surveys indicated a low abundance. This was verified as described in the section on the midwater trawl survey.

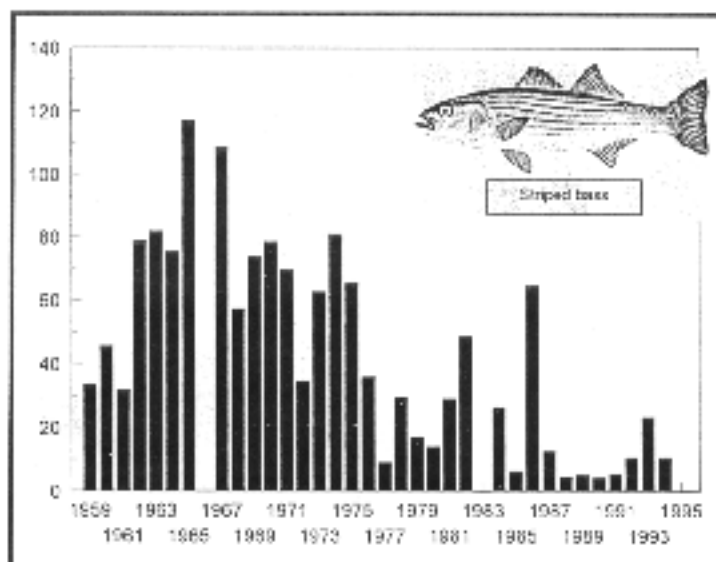


Figure 1

Abundance of Young Striped Bass when the Catch Length Equals 38 Millimeters

Before 1977, the 38-mm striped bass abundance index averaged 66.6. Since 1977, the index averaged only 18.9, less than a third of what it was earlier. Abundance was very low during the 1987-1992 drought (Figure 1).

The midwater trawl survey, which measures young striped bass abundance through the fall, has been conducted since 1967 (except 1974 and 1979). The fall index is the sum of monthly indices for September-December. This abundance index has declined since the early 1970s except in 1983 (Figure 2). The 1995 abundance index was 523, the third lowest on record despite this year class experiencing high flows, which normally produce higher abundance indices.

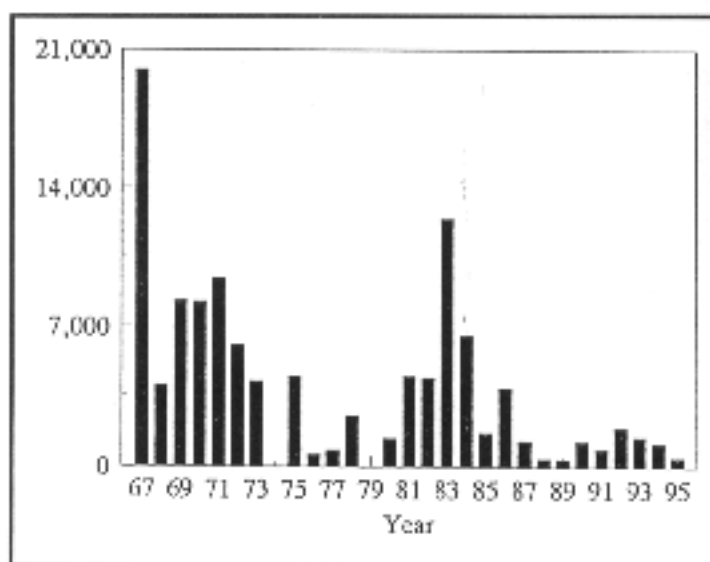


Figure 2

Abundance of Young Striped Bass as Measured by the Fall Midwater Trawl Survey

## Adult Striped Bass

Dave Koblorski, DFG

Adult striped bass population estimates, based on a mark/recapture study, are available for 1969-1993 (Figure 1). After declining from an average of 1.7 million legal-sized fish in the early 1970s, the population seemed to be stable at a new, lower level of 825,000 to 1.2 million in 1977-1989. In 1990, the estimate decreased to 651,000 and has since declined to the lowest level on record of 547,000 in 1993.

Recruitment estimates have varied much more during 1977-1993 (Figure 2), while showing a decline similar to

that of all legal-sized adults. The age 3 abundance estimate has ranged from 312,000 in 1993 to 1.2 million in 1978. (About half the age 3 fish are legal size at the time of the estimate, so only half of the age 3 fish are included in the legal-sized adult estimate.) Variation in the age 4 estimate has been from 172,000 in 1990 to 560,000 in 1980. The variability (especially for age 3) is partly due to real variability in recruitment, but it also is influenced by small numbers of tag recaptures in some recent years and the effect of aging errors.